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(Minneapolis, Minn.)TO: Commissioner for Patents  
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P.O. Box 1450  
Alexandria, VA 22313-1450FROM: Barbara J. ClarkOUR REF: 869.021US1TELEPHONE: 571 272 1402FAX NUMBER (571) 273-8300

\* Please deliver to Examiner Robert Madsen in Art Unit 3721. \*

Document(s) Transmitted: Substitute Appeal Brief Under 37 C.F.R. 41.41 (38 pages) and Request for Oral Hearing (1 pg.) including authorization to charge Deposit Account 19-0743 in the amount of \$1000.00 for the Oral Hearing fee.

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In re. Patent Application of: Wayne I. Knigge et al.Examiner: Robert MadsenSerial No.: 09/945,318Group Art Unit: 3721Filed: August 31, 2001Docket No.: 869.021US1Title: VACUUM-SEALED PACKAGE CONTAINING FRANGIBLE MATERIALS (AS AMENDED)

Please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

By: Barbara J. Clark  
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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Wayne I. Knigge et al. Examiner: Robert Madsen

Serial No.: 09/945,318

Group Art Unit: 3721

Filed: August 31, 2001

Docket: 869.021US1

For: VACUUM-SEALED PACKAGE CONTAINING FRANGIBLE MATERIALS (AS AMENDED)

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**SUBSTITUTE APPEAL BRIEF UNDER 37 CFR §41.41**

Mail Stop Appeal Brief- Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The Substitute Appeal Brief is presented to maintain the appeal under 37 C.F.R. §§ 41.39(b)(2) and 41.41 in reply to the Examiner's Answer mailed May 12, 2006. This Substitute Appeal Brief is presented as a replacement of the Appeal Brief received by the United States Patent and Trademark Office on December 19, 2005.

This Substitute Appeal Brief is further presented in support of the Notice of Appeal to the Board of Patent Appeals and Interferences, filed on October 19, 2005, from the Final Rejection of claims 1, 4-17, 21, 22, 24, 27-29, 32-35, 37-39, 41-43, 45-57, 59-65 and 77-79 of the above-identified application, as set forth in the Final Rejection mailed on May 19, 2005.

No extensions of time or other fees are believed due at this time. However, the Commissioner of Patents and Trademarks is hereby authorized to charge Deposit Account No. 19-0743 should any fees be deemed necessary. The Appellant respectfully requests consideration and reversal of the Examiner's rejections of pending claims.

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### **1. REAL PARTY IN INTEREST**

The real party in interest of the above-captioned patent application is the  
Assignee, GENERAL MILLS, INC.

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## **2. RELATED APPEALS AND INTERFERENCES**

Appellant knows of no other appeals, interferences or judicial proceedings which will have a bearing on the Board's decision in the present appeal.

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Page 4  
Dkt: 869.021US1**3. STATUS OF THE CLAIMS**

Claims 1, 4-17, 21, 22, 24, 27-29, 32-35, 37-39, 41-43, 45-57, 59-65, and 77-79 have been finally rejected. Claims 2, 3, 18-20, 23, 25, 26, 30, 31, 36, 40, 44, 58 and 66-76 have been canceled. Claims 1, 4-17, 21, 22, 24, 27-29, 32-35, 37-39, 41-43, 45-57, 59-65, and 77-79 are the subject of the present appeal.

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Page 5  
Dkt: 869.021US1**4. STATUS OF AMENDMENTS**

No amendments have been made subsequent to the Final Office Action dated May 19, 2005 other than the amendment made to claim 79 in the Amendment and Response mailed on August 19, 2005 to overcome the rejection under 35 USC 112, second paragraph. The subsequent Advisory Action dated September 7, 2005 indicated that the August 19, 2005 Amendment and Response had been entered and the rejection of claim 79 under 35 USC 112, second paragraph had been overcome.

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## **5. SUMMARY OF CLAIMED SUBJECT MATTER**

This summary is presented in compliance with the requirements of 37 CFR 41.37(c)(1)(V), mandating a "concise explanation of the subject matter defined in each of the independent claims involved in the appeal. . ." Nothing contained in this summary is intended to change the specific language of the claims described, nor is the language of this summary to be construed so as to limit the scope of the claims or their equivalents in any way.

Each of the independent claims 1 and 77 includes a package comprising a bag formed of a material comprising a laminate, a co-extrusion of at least two materials or a combination thereof, the bag having an exterior portion, an interior portion, an oxygen barrier and a moisture barrier, wherein the bag becomes sufficiently rigid when vacuum-sealed to reduce breakage of an item contained therein, the item comprising a frangible puffed cereal-based material having a crush resistance or resistance to compression no less than about 7.0 PSIA, wherein the item is held in the interior portion of the bag, the interior portion of the bag having less than about 1 ppm hexanal therein, wherein vacuum-sealing allows the package to be filled with approximately 20 to 60% more cereal-based material. (See, for example, FIG. 1 and page 7, line 10 through page 8, line 7; page 10, lines 4-6 and page 15, lines 10-16 of the specification).

Claim 77 further recites an expanded frangible oat-based cereal. (See, for example, page 9, lines 15-30 and page 10, lines 1-17 of the specification).

See also all amendments to the specification on pages 2-5 of the Amendment and Response mailed on June 2, 2004 in which errors relating to types of materials listed as frangible were corrected.



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**6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259).

Claims 4 and 48 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Ray (U.S. 3,704,191).

Claims 49 and 50 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259), further in view of Ray (U.S. 3,704,191), as applied to claims 4 and 48 above, further in view of Ours et al. (U.S. 6,062,467).

Claims 5-8, 13 and 14 stand rejected under 35 USC § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Witkowski (U.S. 6,594,927 B2).

Claims 9, 11, 33-35 and 37-38 stand rejected under 35 USC § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Galomb (U.S. 6,245,367 B1).

Claims 16, 17, 21, 22, 43, 45-47 and 51-57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Thompson et al. (U.S. 2,478,438).

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Claim 24 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Schwab et al. (US 342635).

Claim 32 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Kraft Foods Inc. (WO9812110).

Claim 39 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Hellweg et al. (U.S. 5,523,109).

Claims 62-64 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Miyake et al. (U.S. 5,942,320).

Claim 77 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259).

Claims 78-79 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claim 77 above, further in view of Hellweg et al. (U.S. 5,523,109).

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## 7. ARGUMENT

### 1) Applicable Law

The Examiner has the burden under 35 U.S.C. 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir.1988). As part of establishing a *prima facie* case of obviousness, the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.*

The court in *Fine* stated that:

Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so."

*Id.* (emphasis in original).

The M.P.E.P. adopts this line of reasoning, stating that

"In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Appellants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991))." MPEP 2142.

The test for obviousness under §103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir.1985). The Examiner must, as one of the inquiries

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pertinent to any obviousness inquiry under 35 U.S.C. §103, recognize and consider not only the similarities but also the critical differences between the claimed invention and the prior art. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990), *reh'g denied*, 1990 U.S. App. LEXIS 19971 (Fed. Cir.1990). Further, the Office Action must provide specific, objective evidence of record for a finding of a suggestion or motivation to combine reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002). Finally, the Examiner must avoid hindsight. *In re Bond* at 834.

Additionally, the fact that a reference teaches away from a claimed invention is highly probative that the reference would not have rendered the claimed invention obvious to one of ordinary skill in the art. *Stranco Inc. v. Atlantes Chemical Systems, Inc.*, 15 USPQ2d 1704, 1713 (Tex. 1990).

Finally, the more remote in time the prior art relied on, the less likely it becomes that the patented invention would be obvious to one of ordinary skill. If there is no rational manner in which the prior art can be modified to result in the patented invention, the patent is valid (i.e., the claims are not obvious in light of the reference). *Continuous Curve Contact Lenses, Inc. vs. National Patent Development Corporation*, 214 USPQ 86, 116 (Cal. 1982).

## 2) Rejections

Appellant respectfully submits that the Final Office Action does not make out a *prima facie* case of obviousness because not all of the claim elements are taught by the references and even if the references did teach all of the elements of the claims, there is no motivation to combine the references.

### a) The Rejection of Claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 under 35 USC 103(a)

Claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 were rejected under 35 USC 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al.

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(U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

The Office Action asserts that Beer, Thompson ('990), Francis, Maglecic, McCrosson and Ylvisaker teach various aspects of the claimed invention. The Advisory Action further characterizes "Packaging Technology" cited by Appellant in the Amendment and Response filed on August 19, 2005 (see page 14) as stating that "soft or fragile" items, such as the cigars by McCrosson and the French fries by Maglecic cannot be vacuum packaged.

The Office Action has failed to comply with the requirement to show that there is a suggestion or motivation, either in the cited references themselves or in the knowledge generally available to an art worker, to modify the reference(s) or to combine reference teachings so as to arrive at the claimed invention since no specific objective evidence of record has been provided for a finding of a suggestion or motivation to combine reference teachings and no explanation of the reasoning by which the evidence is deemed to support such a finding has been given. Additionally, portions of a reference which teach away from the claimed invention must also be considered.

Regarding the combination of Beer with Thompson ('990), Appellant respectfully submits that Beer is directed to solving problems associated with packaging non-frangible free flowing products without significant void spacing therebetween under vacuum. All examples given in Beer are of non-frangible products which are free flowing and without significant voids therebetween, e.g., coffee (beans or ground), drink mix, ready-to-eat breakfast cereal, and lawn/garden chemicals. (See col. 3, lines 24-26). Therefore, when the term "ready to eat breakfast cereal" is taken in context with the like products listed above, it is clear to Appellant, as well as to those skilled in the art, that Beer intends to include only ready to eat breakfast cereals which are "like" the other products mentioned, namely non-frangible, free flowing and without significant voids therebetween (e.g., granola, grits, etc.). Beer is more than "silent" on whether or not the breakfast cereal is frangible as suggested on page 4 of the Final Office Action; there simply is no indication in Beer that Beer is attempting to or desirous of vacuum

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packaging any type of frangible product, including a "frangible puffed cereal-based material" as recited in claim 1. Therefore, there is no motivation in Beer to look to Thompson ('990) to provide frangible products.

In contrast, Thompson ('990) is attempting to solve the problems associated with puffing a cereal product and discusses the various known properties of frangible cereals. Additionally, there is no mention of any attempt or desire in Thompson ('990) to vacuum package such a product. The two references are clearly attempting to solve different problems and therefore are seeking very different solutions.

Indeed, such motivation to vacuum package frangible products would further require some teaching or suggestion of reducing breakage of the contents within the package. As the Examiner further admits in the Final Office Action on Page 4, Beer is also silent as to providing a package that is sufficiently rigid to reduce breakage of the contents within. This is not surprising since breakage of the type of products in Beer is of limited concern at best. What if a few pieces of coffee beans are broken off in a package? What if sugar crystals are broken into smaller particles?

Therefore, there is also no indication in Beer that Beer is attempting to or desirous of providing a package comprising a bag which "becomes sufficiently rigid when vacuum-sealed to reduce breakage of an item contained therein," as recited in claim 1. As a result, there is no motivation in Beer to look to McCrosson (a 1923 reference which teaches vacuum packaging of non-frangible cigars, cigarettes, etc.) or Maglecic (which teaches a vacuum packaging machine for non-frangible French fries) to provide a vacuum bag having more rigidity.

Additionally, Appellant can find no mention in Beer of any desire or attempt to provide a vacuum-sealed package designed to be filled or capable of being filled with approximately 20 to 60% more material than a non vacuum-sealed package. The fact that the packaging of Maglecic can cause up to 30% more product to be contained therein is pertinent to Maglecic alone and of no relevance to Beer. Indeed, not only is there no suggestion in Beer as to the desirability of providing such a package, Beer clearly cannot accomplish filling a package with "30%" more product as in Maglecic or "approximately 20 to 60% more . . . material" as recited in claim 1, since the contents of Beer's packages

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are both non-frangible and free-flowing, and without the amount of void spacing required to do so. Therefore, whether or not the bags of Beer would have worked with the frangible products of Thompson ('990), in combination with all the modifications and combinations suggested by the Examiner, is simply not relevant since the products of Beer lack the requisite void spacing such that they can be filled with 20 to 60% more material than a non vacuum-sealed package.

There is also no motivation to look to either Magleic or McCrosson for any of the features noted on page 5 of the Final Office Action. Again, cigars and French fries are not free flowing and, unlike Beer, packages containing such products have significant voids. Even if products such as French fries were considered to be free flowing, which the Examiner believes them to be (See page 24 of the Examiner's Answer), this is not relevant, as such products are non-frangible.

Francis is relied on in the Final Office Action, but its pertinence does not seem readily apparent. Francis discusses the crush resistance of both frangible and non-frangible products in relation to moisture content. There is no mention in Francis of the relation between crush resistance and vacuum packaging.

Ylvisaker is also relied on for its teaching regarding the degree to which a product settles in a bag as it discusses a process and apparatus for forming, filling, sealing and deflating a package of goods. However, Ylvisaker actually appears to teach away from use of a vacuum-sealed package. For example, the "Background of the Invention" states, in pertinent part, "Another solution provided by the industry is a vacuum drawn on the inside of the package or container through the fill opening . . . However, use of this system will slow the process due to the time required to evacuate gas from the fill tube. These systems also require the installation of equipment within the fill tube to close the tube off from the atmosphere. This additional equipment reduces the tube diameter which may cause plugging due to product bridging." (See col. 1, line 65 through col. 2, line 9).

The references are all attempting to solve different problems and so are seeking different solutions. Such critical differences must be recognized.

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Conventional wisdom also goes against making the combination recited in the present invention, as the results are quite surprising. Indeed, in contrast to the statement made on page 4 of the Advisory Action, Packaging Technology actually states on page 29, col. 2, lines 10-12, that, "*Too* (emphasis added) soft products or fragile ones may also be crushed under the effect of a vacuum in a flexible package." Packaging Technology does not merely refer to "soft" products (e.g., cigars, French fries, etc.) as suggested by the Advisory Action and the Examiner's Answer, but to products that are "*too* soft" or fragile. Certainly the frangible cereal products of the present invention are considered a fragile food product as described in Packaging Technology since the very definition of frangible is "a product that is capable of being broken." (See, for example, Encarta® World English Dictionary, North American Edition). Such products were clearly expected to be crushed under vacuum in Packaging Technology. This has also been the general understanding by those skilled in the art prior to the present invention. Again, the results are quite surprising.

The references also fail, when combined, to teach each and every element of claim 1. None of the references appear to teach "a frangible puffed cereal-based material having a crush resistance or resistance to compression no less than about 7.0 PSIA, wherein the item is held in the interior portion of the bag, the interior portion of the bag having less than about 1 ppm hexanal therein" as recited in claim 1. Even if Thompson ('990) is assumed to teach the stated crush resistance, such a product is not present in a bag having less than about 1 ppm hexanal therein, as recited in the claims. Additionally, none of the references teach vacuum-packaging a frangible puffed cereal-based material wherein vacuum-sealing allows the package to be filled with approximately 20 to 60% more cereal-based material as recited in claim 1. Any discussion of increased product content is with respect to non-frangible products, such as the French fries of Maglecie. As such, it appears that the Examiner has not accorded due weight to all recited claim elements.

Thus, claim 1 is allowable because there is no motivation to combine the references and even when combined, the combination fails to teach each and every element of the claims. The suggested motivation to combine the references is further



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improper because the Answer Brief and the Final Office Action have failed to provide objective evidence of record for a finding of a suggestion or motivation, from within the references themselves, to combine reference teachings.

Claims 10, 12, 15, 27-29, 41, 42, 59-61 and 65 depend from claim 1 and are patentable over Beer in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic and McCrosson and Ylvisaker for the reasons argued above, plus the elements in the claims. If an independent claim is nonobvious under 35 USC 103, then any claim depending therefrom is nonobvious. See MPEP 2143.03.

An order to withdraw the rejection of claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 is respectfully requested.

**b) The Rejection of Claims 4 and 48 under 35 USC 103(a)**

Claims 4 and 48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Ray (U.S. 3,704,19). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

Dependent claims 4 and 48 are allowable because they depend, directly or indirectly, on allowable independent claim 1, there is no motivation to combine the references and even when combined, the suggested combination does not teach each and every element of claims 4 and 48 for all the reasons stated herein.

Appellant thus respectfully requests reconsideration and withdrawal of this rejection under 35 USC 103(a) over Beer as applied to claims 4 and 48 in view of Thompson ('990) and Francis and Maglecic and McCrosson and Ylvisaker, further in view of Ray.

**c) The Rejection of Claims 49 and 50 under 35 USC 103(a)**

Claims 49 and 50 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis

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and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259), further in view of Ray (U.S. 370419), as applied to claims 4 and 48 above, further in view of Ours et al. (U.S. 6,062,467). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

Appellant respectfully submits that claims 49 and 50 are allowable because they depend, indirectly, on allowable independent claim 1, there is no motivation to combine the references and even when combined, the suggested combination does not teach each and every element of claims 49 and 50 for all the reasons stated herein.

Appellant thus respectfully requests reconsideration and withdrawal of this rejection under 35 USC 103(a) over Beer as applied to claims 49 and 50 in view of Thompson ('990) and Francis and Maglecic and McCrosson and Ylvisaker, further in view of Ray, further in view of Ours.

**d) The Rejection of Claims 5-8, 13 and 14 under 35 USC 103(a)**

Claims 5-8, 13 and 14 were rejected under 35 USC § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Witkowski (U.S. 6,594,927 B2). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

Appellant respectfully submits that claims 5-8, 13 and 14 are allowable because they depend, directly or indirectly, on allowable independent claim 1, there is no motivation to combine the references and even when combined, the suggested combination does not teach each and every element of claims 5-8, 13 and 14 for all the reasons stated herein.

Appellant thus respectfully requests reconsideration and withdrawal of this rejection under 35 USC 103(a) over Beer as applied to claims 5-8, 13 and 14 in view of Thompson ('990) and Francis and Maglecic and McCrosson and Ylvisaker, further in view of Galomb.

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**e) The Rejection of Claims 9, 11, 33-35 and 37-38 under 35 USC 103(a)**

Claims 9, 11, 33-35 and 37-38 were rejected under 35 USC § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Galomb (U.S. 6,245,367 B1). ). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

Appellant respectfully submits that claims 9, 11, 33-35 and 37-38 are allowable because they depend, directly or indirectly, on allowable independent claim 1, there is no motivation to combine the references and even when combined, the suggested combination does not teach each and every element of claims 5-8, 13 and 14 for all the reasons stated herein.

Appellant thus respectfully requests reconsideration and withdrawal of this rejection under 35 USC 103(a) over Beer as applied to claims 9, 11, 33-35 and 37-38 in view of Thompson ('990) and Francis and Maglecic and McCrosson and Ylvisaker, further in view of Witkowski.

**f) The Rejection of Claims 16, 17, 21, 22, 43, 45-47 and 51-57 under 35 USC 103(a)**

Claims 16, 17, 21, 22, 43, 45-47 and 51-57 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Thompson et al. (U.S. 2,478,438). The ). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

Appellant respectfully submits that claims 16, 17, 21, 22, 43, 45-47 and 51-57 are allowable because they depend, directly or indirectly, on allowable independent claim 1, there is no motivation to combine the references and even when combined, the suggested

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combination does not teach each and every element of claims 16, 17, 21, 22, 43, 45-47 and 51-57 for all the reasons stated herein.

Appellant thus respectfully requests reconsideration and withdrawal of this rejection under 35 USC 103(a) over Beer as applied to claims 16, 17, 21, 22, 43, 45-47 and 51-57 in view of Thompson ('990) and Francis and Maglecic and McCrosson and Yivisaker, further in view of Thompson ('438).

**g) The Rejection of Claim 24 under 35 USC 103(a)**

Claim 24 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Schwab et al (US 342635). ). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

Appellant respectfully submits that claim 24 is allowable because it depends, directly or indirectly, on allowable independent claim 1, there is no motivation to combine the references and even when combined, the suggested combination does not teach each and every element of claim 24 for all the reasons stated herein.

Appellant thus respectfully requests reconsideration and withdrawal of this rejection under 35 USC 103(a) over Beer as applied to claim 24 in view of Thompson ('990) and Francis and Maglecic and McCrosson and Yivisaker, further in view of Schwab.

**h) The Rejection of Claim 32 under 35 USC 103(a)**

Claim 32 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Kraft Foods Inc. (WO9812110). ). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

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Appellant respectfully submits that claim 32 is allowable because it depends, directly or indirectly, on allowable independent claim 1, there is no motivation to combine the references and even when combined, the suggested combination does not teach each and every element of claim 32 for all the reasons stated herein.

Appellant thus respectfully requests reconsideration and withdrawal of this rejection under 35 USC 103(a) over Beer as applied to claim 32 in view of Thompson ('990) and Francis and Maglecic and McCrosson and Yivisaker, further in view of Kraft.

**i) The Rejection of Claim 39 under 35 USC 103(a)**

Claim 39 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above, further in view of Hellweg et al. (U.S. 5,523,109). ). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

Appellant respectfully submits that claim 39 is allowable because it depends, directly or indirectly, on allowable independent claim 1, there is no motivation to combine the references and even when combined, the suggested combination does not teach each and every element of claim 39 for all the reasons stated herein.

Appellant thus respectfully requests reconsideration and withdrawal of this rejection under 35 USC 103(a) over Beer as applied to claim 39 in view of Thompson ('990) and Francis and Maglecic and McCrosson and Yivisaker, further in view of Hellweg.

**i) The Rejection of Claim 62-64 under 35 USC 103(a)**

Claims 62-64 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65 above,

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further in view of Miyake et al. (U.S. 5,942,320). ). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

Appellant respectfully submits that claims 62-64 are allowable because they depend, directly or indirectly, on allowable independent claim 1, there is no motivation to combine the references and even when combined, the suggested combination does not teach each and every element of claims 62-64 for all the reasons stated herein.

Appellant thus respectfully requests reconsideration and withdrawal of this rejection under 35 USC 103(a) over Beer as applied to claims 62-64 in view of Thompson ('990) and Francis and Maglecic and McCrosson and Yivisaker, further in view of Miyake.

**k) The Rejection of Claim 77 under 35 USC 103(a)**

Claim 77 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259). The Appellant respectfully traverses the rejection and request the Board to consider the following:

The Office Action states that the references teach various aspects of claim 77.

Appellant again respectfully submits that the Office Action has not established the *prima facie* obviousness of the present claims. The Office Action has failed to comply with the requirement to show that there is a suggestion or motivation, either in the cited references themselves or in the knowledge generally available to an art worker, to modify the reference(s) or to combine reference teachings so as to arrive at the claimed invention since no specific objective evidence of record has been provided for a finding of a suggestion or motivation to combine reference teachings and no explanation of the reasoning by which the evidence is deemed to support such a finding has been given. Additionally, portions of a reference which teach away from the claimed invention must also be considered.

The suggested combination does not teach or suggest the claimed invention for all the reasons stated above with respect to claim 1 (see section 2a above). Thus, claim 77 is

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allowable because there is no motivation to combine the references and even when combined, the combination fails to teach each and every element of the claims. The suggested motivation to combine the references is further improper because the Answer Brief and the Final Office Action have failed to provide objective evidence of record for a finding of a suggestion or motivation, from within the references themselves, to combine reference teachings.

Appellant thus respectfully requests reconsideration and withdrawal of the rejection to claim 77 under 35 USC 103(a) over Beer in view of Thompson ('990) and Francis and Maglecic and McCrosson and Yivisaker.

**1) The Rejection of Claims 78-79 under 35 USC 103(a)**

Claims 78-79 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beer (U.S. 6,213,645 B1) in view of Thompson et al. (U.S. 3,246,990) and Francis and Maglecic et al. (U.S. 5,473,866) and McCrosson (U.S. 1,458,585) and Ylvisaker et al. (U.S. 4,964,259) as applied to claim 77 above, further in view of Hellweg et al. (U.S. 5,523,109). ). The Appellant respectfully traverses the rejection and requests the Board to consider the following:

Appellant respectfully submits that claims 78-79, there is no motivation to combine the references and even when combined, the suggested combination does not teach each and every element of claims 78-79 for all the reasons stated herein.

Appellant thus respectfully requests reconsideration and withdrawal of this rejection under 35 USC 103(a) over Beer as applied to claims 78-79 in view of Thompson ('990) and Francis and Maglecic and McCrosson and Yivisaker, further in view of Hellweg.

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## **8. RESPONSE TO EXAMINER'S ANSWER BRIEF**

The following responses to the arguments in the Answer Brief are presented in the order introduced in the Answer Brief.

### **1) Responding to the Examiner's response to arguments regarding the Examiner's conclusion of obviousness**

Appellant again asserts that a *prima facie* case of obviousness has not been made for all the reasons presented herein and again states that improper hindsight reasoning has been used which goes beyond knowledge within the level of ordinary skill at the time the claimed invention was made and includes knowledge gleaned from the Applicant's disclosure.

### **2) Responding to the Examiner's response to arguments regarding the age of the references**

Appellant respectfully submits that the dates of the references are quite pertinent. As noted above on page 11, the more remote in time the prior art relied on, the less likely it becomes that the patented invention would be obvious to one of ordinary skill. Thompson ('438), a 1949 reference, issued 57 years ago and McCrosson, a 1923 reference, issued 83 years ago. Certainly such references can be considered relatively remote in time.

Again, if there is no rational manner in which the prior art can be modified to result in the patented invention, the patent is valid (i.e., the claims are not obvious in light of the reference). In the present case, conventional wisdom goes against making the combination recited in the present invention, as the results are quite surprising. Even Packaging Technology states on page 29, col. 2, lines 10-12, that, "*Too* (emphasis added) soft products or *fragile ones* (emphasis added) may also be crushed under the effect of a vacuum in a flexible package." Such products were expected to be crushed under vacuum in Packaging Technology. Clearly, the prior art teaches away from vacuum packaging of frangible products for all the reasons stated herein and has thus failed to solve the same problem notwithstanding its presumed knowledge of the references.



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**3) Responding to the Examiner's response to arguments regarding claims 1, 10, 12, 15, 27-29, 41, 42, 59-61 and 65**

Appellant respectfully disagrees with the Examiner's assertions that, "neither Beer nor any other evidence made of record would suggest that the "ready to eat breakfast cereal" disclosed by Beer is limited to any particular type of breakfast cereal, such as non-frangible cereals." Indeed, a fair reading of Beer can lead to no other conclusion. The term "ready to eat breakfast cereal" in Beer is clearly a reference to a non-frangible and free flowing product without significant voids therebetween. As noted above, when this term is properly taken in context with the like products listed in Beer, namely coffee (beans or ground), drink mix, ready-to-eat breakfast cereal, and lawn/garden chemicals. (See col. 3, lines 24-26), it is clear to Appellant, as well as to those skilled in the art, that Beer intends to include only ready to eat breakfast cereals which are "like" the other products mentioned, namely non-frangible, free flowing and without significant voids therebetween (e.g., granola, grits, etc.). Beer is more than "silent" on whether or not the breakfast cereal is frangible as suggested on page 4 of the Final Office Action, there simply is no indication in Beer that Beer is attempting or desirous of vacuum packaging any type of frangible product, including a "frangible puffed cereal-based material" as recited in claim 1. Therefore, there is no motivation in Beer to look to Thompson ('990) to provide frangible products, including frangible ready to eat breakfast cereals of any shape, as suggested on page 23 of the Examiner's Answer. Additional evidence made of record is provided by Packaging Technology which maintains that products which are "fragile" would be crushed under the effect of a vacuum in a flexible package.

**4) Responding to the Examiner's response to arguments regarding filling the recited bag with approximately 20 to 60% more material**

Appellant respectfully states that the fact that Maglecic can be filled with 30% more French fries does not render Appellant's invention obvious. Firstly, Maglecic is concerned with a non-frangible food product, namely French fries. Secondly, Appellant's ability to fill a bag with approximately 20 to 60% more cereal-based material

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cannot be taken in isolation and must be considered together with the other elements of the claims. Appellant is the first to provide this feature *in combination with* the other recited elements. More specifically, Appellant is the first to provide a package comprising a bag formed of a material comprising a laminate, a co-extrusion of at least two materials or a combination thereof, the bag having an exterior portion, an interior portion, an oxygen barrier and a moisture barrier, wherein the bag becomes sufficiently rigid when vacuum-sealed to reduce breakage of an item contained therein, the item comprising a frangible puffed cereal-based material having a crush resistance or resistance to compression no less than about 7.0 PSIA, wherein the item is held in the interior portion of the bag, the interior portion of the bag having less than about 1 ppm hexanal therein, wherein vacuum-sealing allows the package to be filled with approximately 20 to 60% more cereal-based material, as recited in claim 1.

**5) Responding to Examiner's response to arguments regarding the lack of requisite void spacing in Beer**

Appellant respectfully traverses the assertion that it would have been obvious to use the free-flowing frangible puffed ready to eat cereal of Thompson ('990) in Beer for all the reasons stated herein, including in subsection no. 3 of this section, above. Again, motivation to combine would require some teaching or suggestion of reducing breakage of the contents within the package. As noted above, and as the Examiner admits in the Final Office Action on Page 4, Beer is silent as to providing a package that is sufficiently rigid to reduce breakage of the contents within. This is not surprising since breakage of the type of products in Beer is of limited concern at best. What if a few pieces of coffee beans are broken off in a package? What if sugar crystals are broken into smaller particles? As there is clearly no motivation to combine Beer with Thompson, the Examiner has failed to show the requisite void spacing in a package containing frangible puffed cereal-based material. Appellant further questions the statement that French fries can be considered to be free flowing. However, whether or not French fries are interpreted to be free flowing or not is also not relevant, as French fries are not frangible. None of the references fairly teach or suggest a package as recited in the claims, which

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includes a bag which becomes sufficiently rigid when vacuum-sealed to reduce breakage of an item contained therein, the item comprising a frangible puffed cereal-based material.

**6) Responding to Examiner's response to arguments regarding the lack of pertinence of Francis**

Appellant again asserts that Francis is not pertinent. The discussion of crush resistance in Francis of both frangible and non-frangible products in relation to moisture content does not add to the discussion of crush resistance in relation to vacuum packaging. Indeed, there is no mention of or concern with vacuum packaging in Francis. The Examiner maintains that the reference was used to show that it is well established to modify certain components in a ready to eat cereal in order to achieve a desired crush resistance. Again, even assuming this feature is well known, this does not render Appellant's invention obvious, as the claimed invention must be considered as a whole.

**7) Responding to Examiner's response to arguments regarding Ylvisaker teaching away from the present invention**

Appellant again asserts that Ylvisaker teaches away from the present invention. The Examiner stated that Ylvisaker is cited merely for the teaching that the degree to which a product settles in a bag by conventional filling is a function of the geometry of the particular product. However, a reference must be considered as a whole, including the portions which teach away from the present invention, and Ylvisaker actually appears to teach away from use of a vacuum-sealed package. (See page 14, above). Additionally, the claimed invention must be considered as a whole.

**8) Responding to Examiner's response to arguments regarding the assertion that Packaging Technology supports the assertion of a surprising result**

Appellant again asserts that Packaging Technology supports the assertion of a surprising result. Appellant notes that the Examiner now admits that Packaging Technology does discuss "fragile" items, although again improperly states that Packaging

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Technology discusses "soft" items, when, in fact, Packaging Technology refers to "too soft" items. (See page 29, col. 2, lines 10-12 of Packaging Technology and page 14, above). Therefore, the comments regarding the "soft items" of cigars and French fries are not relevant, as these would not be considered by those skilled in the art to be items which are "too soft" as to be crushed under the effect of a vacuum in a flexible package.

Appellant notes that it appears inconsistent for the Examiner to state in this portion of the Examiner's Answer (on page 24) that Packaging Technology does not teach or suggest that a "fragile item" includes puffed cereal compositions, while assuming repeatedly throughout prosecution, including in other portions of the Examiner's Answer (including on page 23), that the ready to eat cereal in Beer is not limited to any particular type of breakfast cereal, such as non-frangible cereals. Such an assumption requires one to completely ignore each and every free-flowing, non-frangible example listed in Beer, none of which have significant voids therebetween. Appellant again traverses such an assumption and maintain that Beer is clearly limited to free flowing, non-frangible food products which do not have significant voids therebetween, including free-flowing, non-frangible ready to eat cereal products which do not have significant voids therebetween. Appellant is not suggesting which free flowing, non-frangible ready to eat cereal products without significant voids therebetween Beer may have referring to, but again note that several such products do exist, including grits, granola, and so forth.

Appellant also traverses the suggestion that since a frangible puffed cereal product is not specifically listed in Packaging Technology as a fragile item, it could not be considered the type of "fragile" product thought to be crushable under vacuum in Packaging Technology. Appellant maintains that an example of each and every product one might consider to be fragile is not necessary in order to fully appreciate the teachings of Packaging Technology. As the Examiner now admits on page 24 of the Examiner's Answer, Packaging Technology does indeed teach that fragile products could not be vacuum packaged without breaking. Therefore, it is clear that, as a fragile product, a frangible puffed cereal product was not considered to be a product capable of being vacuum packaged, since vacuum packaging was expected to break the products contained

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therein. Appellant again notes that the very definition of frangible is "a product that is capable of being broken." (See page 14, above).

**9) Responding to Examiner's statements of dependency and rejections**

Appellant agrees that the listed claims are dependent from the independent claims noted, except respectfully assert that claims 78 and 79 are dependent from claim 77, not claim 1. Appellant again traverses the rejection of these claims for all the reasons stated herein. Appellant states that the arguments with regard to both claims 1 and 77 are fully persuasive and the rejections should be withdrawn. Again, a dependent claim cannot be held to be obvious when the independent claim from which it depends is found to be non-obvious. Reconsideration and withdrawal of all of the rejections herein is respectfully requested.

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Dkt: 869,021US19. SUMMARY

It is respectfully submitted that a *prima facie* case of obviousness under 35 USC 103 has not been established. Therefore, it is respectfully requested that the rejection of claims 1, 4-17, 21, 22, 24, 27-29, 32-35, 37-39, 41-43, 45-57, 59-65 and 77-79 be reconsidered and withdrawn. The Appellant further submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to contact Appellant's Attorney, Barbara Clark, at 515-233-3865, if prosecution will be assisted thereby.

Respectfully submitted,

WAYNE L KNIGGE et al.

By their Representatives,

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Date JULY 11, 2006 By Barbara J. Clark  
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I hereby certify that this paper is being transmitted by facsimile to the U.S. Patent and Trademark Office on the date shown below.

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SUBSTITUTE APPEAL BRIEF UNDER 37 C.F.R. § 41.41

Serial Number: 09/945,318

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Title: VACUUM-SEALED PACKAGE CONTAINING FRANGIBLE MATERIALS (AS AMENDED)

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Dkt: 869.021US1CLAIMS APPENDIX

1. A package comprising:  
a bag formed of a material comprising a laminate, a co-extrusion of at least two materials or a combination thereof, the bag having an exterior portion, an interior portion, an oxygen barrier and a moisture barrier, wherein the bag becomes sufficiently rigid when vacuum-sealed to reduce breakage of an item contained therein, the item comprising a frangible puffed cereal-based material having a crush resistance or resistance to compression no less than about 7.0 PSIA, wherein the item is held in the interior portion of the bag, the interior portion of the bag having less than about 1 ppm hexanal therein, wherein vacuum-sealing allows the package to be filled with approximately 20 to 60% more cereal-based material.
4. The package of claim 1 further comprising an exterior carton in which the package is enclosed.
5. The package of claim 1 wherein the bag further comprises a coupon or premium.
6. The package of claim 5 wherein the coupon or premium is located on the exterior portion of the bag.
7. The package of claim 5 wherein the coupon or premium is located in the interior portion of the bag.
8. The package of claim 5 further comprising a separate compartment in which the coupon is located.
9. The package of claim 1 wherein the bag is translucent.
10. The package of claim 1 wherein the bag is opaque.

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11. The package of claim 10 wherein the bag further comprises a transparent window.
  12. The package of claim 1 wherein the exterior portion of the bag is textured.
  13. The package of claim 1 wherein the bag is preprinted with product information.
  14. The package of claim 1 wherein the bag further comprises a pressure sensitive label affixed to the exterior portion of the bag.
  15. The package of claim 1 wherein the frangible material has a crush resistance no less than about 14.7PSIA.
  16. The package of claim 1 wherein at least a portion of the frangible material comprises a whole grain selected from the group consisting of whole grain oats, whole grain rice, whole grain corn and mixtures thereof.
  17. The package of claim 16 wherein the frangible material further comprises soybean flour.
  21. The package of claim 16 wherein the frangible material is comprised of ring-shaped, spherical or convex puffed pieces.
  22. The package of claim 16 wherein the frangible material is comprised of irregularly-shaped puffed pieces.
  24. The package of claim 16 wherein the frangible material further comprises marbits.
  27. The package of claim 1 wherein the bag has a semirigid portion.



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28. The package of claim 27 further comprising an interior structure.
29. The package of claim 27 wherein the frangible material comprises snack chips.
32. The package of claim 27 wherein the bag is filled with a gas selected from the group consisting of Nitrogen, Nitrous Oxide, Argon, Neon and mixtures thereof.
33. The package of claim 1 wherein the bag has a first chamber and second chamber separated from the first chamber.
34. The package of claim 33 wherein the frangible material comprises a nonparticulate portion packaged in the first chamber and a particulate portion packaged in the second chamber.
35. The package of claim 34 wherein the nonparticulate portion and particulate portion have a  $\Delta A_w$  of at least about 0.1.
37. The package of claim 35 wherein the particulate portion has a water activity between about 0.2 and 0.4 and the nonparticulate portion has an  $A_w$  of no greater than about 0.7.
38. The package of claim 37 wherein the nonparticulate portion comprises raisins having an  $A_w$  of about 0.6.
39. The package of claim 1 wherein the frangible material is made of an oat flour which has a tendency to become rancid and is pretreated to reduce or prevent rancidity.
41. The package of claim 1 wherein the bag further comprises a closure.
42. The package of claim 41 wherein the bag is recloseable.

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43. The package of claim 1 wherein the bag is preformed and has a predetermined shape, and at least a portion of the material comprises a whole grain.

45. The package of claim 43 comprising a seal strong enough to maintain said vacuum conditions within the package.

46. The package of claim 43 wherein the predetermined shape is selected from the group consisting of a rectangular shape, a brick shape, a square shape, a circular shape, a rectangular cube shape, a square cube shape, a spherical shape, a heart shape, an egg shape, a star shape, a pumpkin shape, a Christmas tree shape, a football shape, a basketball shape and a milk carton shape.

47. The package of claim 46 wherein the bag is preformed in the shape of a rectangular cube.

48. The package of claim 43 further comprising a cereal carton in which the bag is enclosed.

49. The package of claim 48 wherein:  
the cereal carton has a bottom and a top;  
the bag has a bottom and a top;  
the top of the bag has a vacuum seal and the bottom of the bag has a perforated portion; and  
the bag is inserted in the carton so that the bottom of the bag is at the top of the carton and the bag is opened by opening the perforated portion thereof.

50. The package according to claim 49 wherein the cereal carton is made of paperboard.

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51. The package of claim 43 wherein the bag is rectangular and comprises a bottom, a pair of opposed sides, a top, and a recloseable opening at the top.

52. The package of claim 51 wherein the recloseable opening further comprises an adhesive closure.

53. The package of claim 52 wherein the adhesive closure comprises a tacky pressure sensitive adhesive.

54. The package of claim 51 wherein the recloseable opening further comprises a cold seal.

55. The package of claim 51 wherein the recloseable opening further comprises a zipper.

56. The package of claim 51 wherein the recloseable opening further comprises a clip mechanism.

57. The package of claim 51 wherein the recloseable opening further comprises a tie.

59. The package of claim 1 wherein the laminate has an oxygen permeability of no greater than about 0.02 cc/100 in.<sup>2</sup> in about one day.

60. The package of claim 1 wherein the laminate has an oxygen permeability of no greater than about 0.05 cc/100 in.<sup>2</sup> in about one day.

61. The package of claim 1 wherein the laminate has an oxygen permeability of no greater than about 0.013 cc/100 in.<sup>2</sup> in about one day.

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62. The package of claim 1 wherein the laminate is a flexible material comprising:  
a polymer substrate selected from the group consisting of polyethylene (PE),  
polypropylene (PP), polyethylene terephthalate (PET), and polylactic acid (PLA);  
an oxygen barrier layer; and  
a moisture barrier layer comprising a metallized polymeric composite.
63. The package of claim 62 further comprising a film or ceramic including a  
component selected from the group consisting of oxygen scavengers and antioxidants.
64. The package of claim 1 wherein the laminate is a flexible material comprising:  
a layer of aluminum oxide coated polyethylene;  
a layer of polyester;  
a layer of glass or ceramic; and  
a polyester sealant interior of the aluminum oxide coated polyethylene layer.
65. The package of claim 1 wherein the laminate comprises a moisture barrier coating  
exterior of an oxygen barrier coating.
77. A package comprising:  
a bag formed of a material comprising a laminate, a co-extrusion of at least two  
materials or a combination thereof, the bag having an exterior portion, an interior portion,  
an oxygen barrier and a moisture barrier, wherein the bag becomes sufficiently rigid  
when vacuum-sealed to reduce breakage of an item contained therein, the item  
comprising an expanded frangible oat-based cereal material with a crush resistance or  
resistance to compression no less than about 7.0 PSIA, the item held in the interior  
portion of the bag, the interior portion of the bag having less than about 1 ppm hexanal  
therein, wherein vacuum-sealing allows the package to be filled with approximately 20 to  
60% more oat-based cereal material.

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78. The package of claim 77 where rancidity of the oat-based cereal material is substantially eliminated.

79. The package of claim 77 wherein shelf life of the oat-based cereal material is nearly doubled as compared with a non vacuum-sealed bag.

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**EVIDENCE APPENDIX**

None.

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**RELATED PROCEEDINGS APPENDIX**

None.